

## Amicus: A national fire behaviour knowledge base

We have developed a new multi-platform computer application that enables the easy calculation of expected fire danger and fire behaviour from current and forecast burning conditions. Amicus brings together all our published knowledge for predicting the behaviour and spread of bushfires in a range of vegetation and fuel types into a simple easy-to-use interface. It is a powerful tool for fire behaviour analysis and prediction.

It is projected that Australia will face a significant increase in frequency and severity of bushfires causing long lasting socio-economic and ecological impacts.

Accurate prediction of bushfire behaviour is essential for the effective planning and management of fire in the landscape.

This knowledge enables the timely determination of the potential threat and impacts of a fire and provides the basis for sound fire-management decision-making.

Fire behaviour prediction combines quantitative and qualitative information sources that are based on scientific principles and personal experience describing the combustion and behaviour of fire in a range of weather, fuel and topographic conditions.

Amicus, a national fire behaviour knowledge base, is a new software tool that provides a unique framework in which each of these information sources can be accessed and used by trained fire behaviour analysts to predict the behaviour of bushfires. One centralised knowledge base ensures consistent and comprehensive information is available.



Improved knowledge of fire behaviour is critical for emergency management operations, risk prediction and timely issuing of warnings

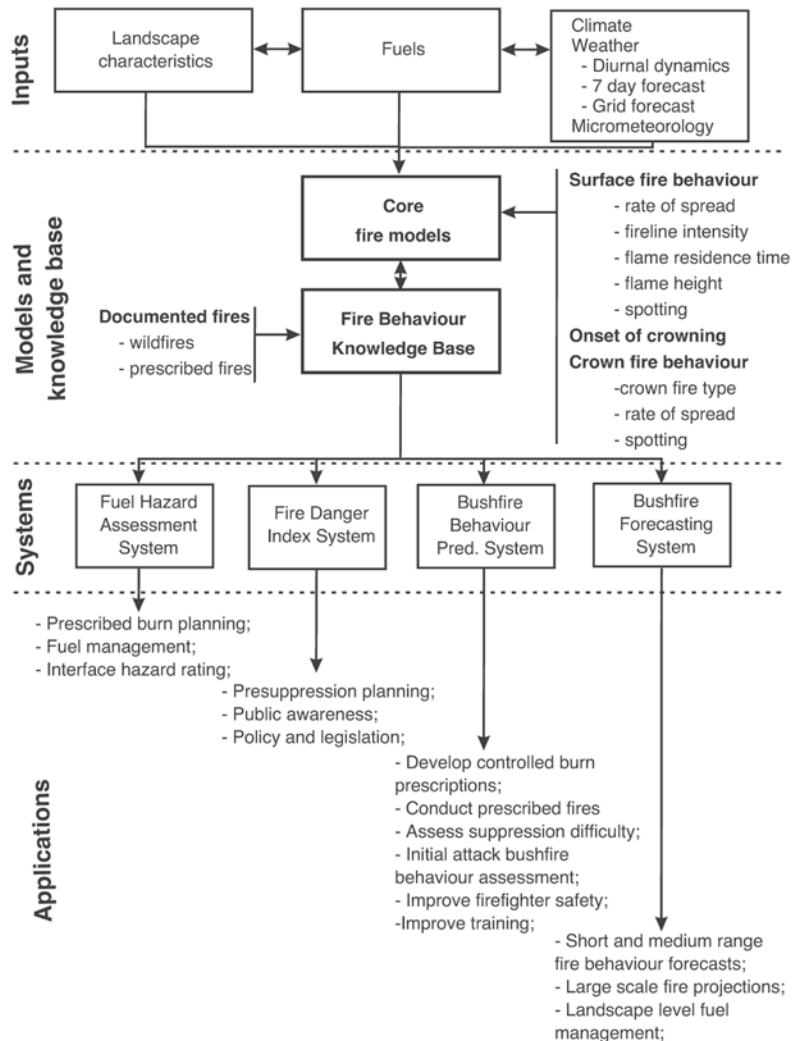
## How it works

Fire behaviour analysts enter landscape characteristics, forecast or actual weather data and information on vegetation and fuel type condition and Amicus provides quick, easy point-based estimates of potential fire rate of spread and behaviour according to the most appropriate fire behaviour model from the library of models incorporated into it. Amicus has been designed to run on a range of desktop operating systems with future versions to allow use in the field via tablets and smartphones.

## Future development of Amicus

The current version of Amicus contains only quantitative information of fire behaviour derived from our current set of recommended fire behaviour models for those vegetation types for which a quality rate of fire spread model exists.

Future expansion of the tool will integrate the fire weather, fuel dynamics, and suppression capability knowledge and science to help fire managers better predict bushfire behaviour and better plan prescribed burns. It will also allow new qualitative knowledge, obtained from a variety of sources to be added to improve knowledge applicability; including personal observation, photographs, video and more objective sources.

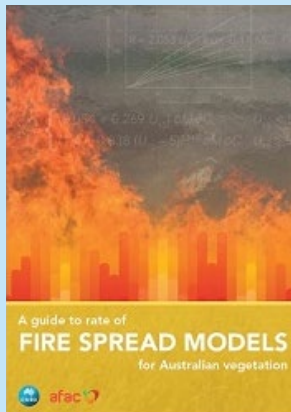


**Amicus encompasses Australia's fire behaviour and knowledge base and provides a method for easily accessing and updating that suite of knowledge in a user-sourced environment**

## Download

A demonstration version of Amicus is available for download at [research.csiro.au/amicus/](http://research.csiro.au/amicus/)

Amicus is a digital companion to the recent publication released by Australasian Fire and Emergency Services Authorities Council and CSIRO, *A guide to rate of fire spread models for Australian vegetation*.



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